

ABSTRACT OF THE DISCLOSURE

An orbital vibrator apparatus has a base mounted on vibration isolation mounts. An armature plate is resiliently mounted to the base by three flexural spring elements. An armature of magnetically attracted material is mounted to the armature plate. A first electromagnet and a second electromagnet are mounted on the base at right angles to one another and in a spaced apart relationship to the armature. A source of single-phase alternating current is connected to the first electromagnet and the second electromagnet by way of a control circuit. The control circuit includes a variable voltage transformer for controlling the voltage of the electric current and a phase shifting circuit. The phase shifting circuit shifts the phase of the alternating current by approximately ninety degrees. The first electromagnet is driven directly from the output of the voltage transformer and the second electromagnet is driven from the output of the phase shifting circuit. The motion that results from the two electromagnets acting on the armature ninety degrees out of phase from each other will be approximately circular. Optionally, the control circuit may also include a mode selector switch for selectively operating the vibration generator in a circular orbital vibratory mode, an elliptical vibratory mode and a reciprocating vibratory mode.